

ART. VI. *Case of Tetanus.—Respiration performed by one Lung, with Vigorous Nutrition and General Health.* By SAMUEL JACKSON, M. D. Assistant to the Professor of the Institutes and Practice of Medicine and Clinical Practice in the University of Pennsylvania.

I WAS requested to visit Henry Davis, an apprentice to Mr. F. printer; Saturday, March 22d, 1828. About two weeks previous, while running through the yard, he struck his thigh against a splintered board projecting from a fence. A small superficial wound had been made in the skin, and was dressed with adhesive plaster. On Monday, the 17th, he complained of a pain in his neck, and of sore throat, but continued to attend to his duties. Friday, 20th, was so much worse he was confined to bed. An emetic was given, and followed by a purge, which did not open the bowels: was very unwell during the night, and early in the morning calomel, grs. x. was administered.

This lad was twelve years of age, had enjoyed good health since he had been in the city, which was three years, and had walked from Pittsburgh to Philadelphia. He was well made, stout limbed, and active.

When I saw him first, I found him labouring under the opisthotonic form of tetanus. The jaws were firmly fixed, the head drawn back, the body forming an arch, the abdomen tense and hard, breath fetid. The wound in the thigh was very healthy in appearance, and had nearly cicatrized; it gave him no pain. I examined it well, but could find no splinters in it.

A tourniquet was applied round the thigh, above the wound, an injection given to open the bowels, and the spine directed to be covered the whole extent with leeches. A small number only could be obtained, the stock in the city having been nearly exhausted through the course of the winter's practice. Failing in the means to press this plan of treatment, the opiate method was adopted: two hundred drops were given, to be repeated every hour and a half, increasing fifty drops with each dose. The spasms continued to augment in intensity; the laudanum appeared to occasion no marked effect, except some confusion of intellect, but he constantly gave correct answers to questions. He expired at 9, P. M. having taken one thousand five hundred drops of laudanum since twelve o'clock.

Autopsy, eighteen hours after death, was performed the next day, by Doctor HORNER, Adjunct Professor of Anatomy, with his usual accuracy and minute observation.

The body was well proportioned, and rather large for the age of the individual; discoloration of back, sides, and neck, from settling of blood; muscles of extremities rigid, those of the neck relaxed; right side of the thorax, rounded, fuller and larger than the left, which was contracted.

The skin of the thigh, where the wound was situated, was dissected off. On the inner surface there was no mark of injury or appearance that the wound had extended through the skin. The fascia covering the muscles presented no alteration to the eye; when raised a small discoloured spot, the size of a pea, existed on the under surface, which was covered with fetid pus; the muscular fibres in immediate contact were hardened and inflamed, for about the space that would be covered by a sixpence. The fascia was separated into layers, and in its substance was found imbedded a small splinter of wood, an eighth of an inch in length, and two lines in width.

Brain.—The dura mater being raised, the veins were very turgid, and when the brain was removed, the blood ran freely from the vertebral veins and jugulars, when the head was pendent. The arachnoid was perfectly transparent, but remarkably arid; it felt as though it had been wiped with a dry cloth: this appearance particularly attracted the attention of Doctor Horner and myself; neither of us had met with it previously. The vessels of the pia mater were turgid and congested with blood.

The cortical substance of the brain was darker coloured than is common. The medullary substance exhibited numerous reddened spots, formed by oozing of blood from the extremities of divided vessels. It was very firm, not a particle of fluid was contained in any of the ventricles. The cerebellum and medulla oblongata offered no unusual appearances.

Spinal marrow.—The spinal canal was laid open to the last lumbar vertebra. The arachnoid and pia mater were natural in appearance; the vessels in the last very full of blood, but which might be attributed to the position of the body: no fluid existed in the canal. The spinal cord was removed and carefully examined; like the brain, it was uncommonly firm, but offered no positive pathological condition.

Thorax.—The heart was of natural size and consistency: all its cavities were empty, no coagula of blood in them. The right lung was very large, crepitating, in perfectly natural state as was also its investing serous covering. The left lung was compressed into a solid mass, about the size of the fist, but no otherwise changed in structure than what resulted from its condensed state; and the cavity which it

left, was filled with cellular tissue, apparently produced by lymph having been effused, and subsequently organised.

**Abdomen.**—Stomach and intestines, except lower portion of ileum which was contracted, distended with flatus. Stomach contained the fluids, and milk coagulated, he had drunk before death. It was very much distended; cardiac extremity, where the contents were principally contained, was of faint red colour; no injection of vessels; the mucous tissue of this portion softened so as to peel off by scratching it with the nail; in the other portions of the stomach it was whitish, thicker than is commonly seen, natural firmness. Small intestines contained no fæces; the mucous tissue of natural whitish colour and consistency: large intestines loaded with liquid, greenish fæces; the tissues of natural aspect.

The liver and spleen exhibited nothing different from their usual state.

**Remarks.**—A circumstance in this case, worthy of remark, is, that one lung alone performed the office of respiration, and was perfectly adequate to all the purposes of hæmatisation, and of healthy nutrition, and not incompatible with the possession of robust health. The period when he had suffered the attack of pluritis, from the effusion of which the left lung had been compressed, and had not again expanded, could not be ascertained. He had never spoken of any severe illness, previous to coming to the city, and he had enjoyed full health during the three years he had resided in Philadelphia.

The points in this case that invite attention, are, 1st. The wound was healthy and rapidly cicatrizing, and it is not presumable the irritation which excited the tetanic affection emanated from this source; 2d. The minute splinter in the fascia, around which unhealthy pus had been formed, it is probable was the point whence the irritation was transmitted to the spinal marrow; 3d. An unusual aridness of the arachnoides and firmness of the brain and spinal marrow, were the sole appearances that could be connected with the pathological state; and 4th. That a fatal tetanus may result from an irritation of the spinal marrow or brain, not sufficient to the excitation of inflammation or alteration of structure.